

3.2 SUBSTITUTION METHOD EXTRA STEP

Ex 1 $x + 2y = 2 \Rightarrow x = \boxed{-2y + 2}$

$$7x - 3y = -20$$

$$7(-2y + 2) - 3y = -20$$

$$\boxed{-14y} + 14 - 3y = -20$$

$$-17y + 14 = -20$$

$$\begin{array}{r} -14 \end{array} \quad \begin{array}{r} -14 \end{array}$$

$$\frac{-17y}{-17} = \frac{-34}{-17}$$

$$y = 2$$

$$\boxed{y = 2}$$

$$x = -2(2) + 2$$

$$x = -4 + 2$$

$$x = -2$$

$$\boxed{(-2, 2)}$$

Ex 2 $x - y = 3 \Rightarrow x = \boxed{y + 3}$

$$-2x + 2y = -6$$

$$-2(y + 3) + 2y = -6$$

$$\cancel{-2y} - 6 + \cancel{2y} = -6$$

$$-6 = -6$$

INFINITELY MANY SOLUTIONS

Ex 3 $12x + 3y = 16 \Rightarrow \frac{3y}{3} = \frac{-12x + 16}{3} \Rightarrow y = \boxed{-4x + \frac{16}{3}}$

$$-36x - 9y = 32$$

$$-36x - 9(-4x + \frac{16}{3}) = 32$$

$$\cancel{-36x} + \cancel{36x} - 48 = 32$$

$$-48 \neq 32$$

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Homework: WORKSHEET 199 #35-44 ALL